

REMARKS

The present application has been reviewed in light of the Office Action dated October 23, 2009. Claims 1-17 are presented for examination, of which Claims 1 and 15 are in independent form. Claims 18-20 have been withdrawn from consideration. Claims 1 and 15 have been amended to define aspects of Applicants' invention more clearly. Support for the claim amendments may be found, for example, in paragraphs [0017]-[0019] of U.S. Patent Application Publication No. 2006/0106484, which corresponds to the present application.¹ Favorable reconsideration is requested.

The Office Action states that Claims 1-9 and 11-17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,126,445 (*Willoughby*), in view of U.S. Patent No. 6,398,554 (*Perot et al.*); and that Claim 10 is rejected under § 103(a) as being unpatentable over *Willoughby* in view of *Perot et al.*, and further in view of U.S. Patent No. 6,968,247 (*Rathke et al.*). For at least the following reasons, Applicants submit that independent Claims 1 and 15, together with the claims dependent therefrom, are patentably distinct from the cited prior art.

The aspect of the present invention set forth in Claim 1 is directed to a method of automatically fabricating a dental superstructure to be attached to an implant with the help of a digital model description of the shape. The dental superstructure includes first and second elements. A real clinical situation or a shaped clinical situation of the implant is recorded digital data. The recorded situation is analyzed and an implant axis is determined. An optimum shape of the dental superstructure is computed, based at least in part on the determined implant axis. Digital data representing the optimum shape of the dental superstructure is generated. The

¹ Any examples presented herein are intended for illustrative purposes and are not to be construed to limit the scope of the claims.

digital data representing the optimum shape of the dental superstructure is automatically separated into first digital data and second digital data. The first and second elements of the superstructure are fabricated from one or more blanks, based on the first digital data and the second digital data with the aid of machining equipment.

By virtue of automatically separating the digital data representing the optimum shape of the dental superstructure into first digital data and second digital data, the first and second elements of the superstructure can be fabricated to fit together more precisely compared to superstructure elements fabricated using conventional techniques, for example.

Willoughby is understood to relate to dental implant abutment systems, related devices, implantology processes, and implantology techniques (*see col. 1, lines 11-13*). Nothing has been found, or pointed to, in *Willoughby* that is believed to teach or suggest that digital data representing an optimum shape of a dental superstructure is automatically separated into first digital data and second digital data. Moreover, nothing has been found, or pointed to, in *Willoughby* that is believed to teach or suggest that first and second superstructure elements are fabricated based on such first and second digital data.

Perot et al. is understood to relate to prostheses of a fixed type or a connected type, such as bridges, crowns, stumps, and dentures (*see col. 1, lines 4-7*). *Perot et al.* discusses that a tooth 1 can be “fitted out” using a prosthesis 2 having a prosthetic fitting cap 3 on which a prosthetic crown 4 is mounted (*see col. 3, lines 27-29*). The tooth 1 has an implantation zone 5 for the prosthesis 2 (*see col. 3, lines 32-34*). A digitized three-dimensional representation R_1 of an implantation zone 5 can be obtained using a sensor (*see col. 3, lines 59-61*). As best understood by Applicants, the digitized three-dimensional representation R_1 of the implantation zone 5 is generated by the sensor. That is, the digitized three-dimensional representation R_1 of

the implantation zone 5 is not understood to be generated by separating digital data representing an optimum shape of a dental superstructure.

Perot et al. also discusses that a digitized three-dimensional representation R_2 of an external surface of a prosthesis 2 can be defined based on environmental parameters of the prosthesis 2 and a digitized three-dimensional representation R_{1c} of an internal surface of the prosthesis 2 (*see* col. 4, lines 21-26). As best understood by Applicants, the digitized three-dimensional representation R_2 is not generated by separating digital data representing an optimum shape of a dental superstructure.

In summary, Applicants submit that *Willoughby* and *Perot et al.*, whether considered separately or in combination, assuming such combination would even be permissible, would fail to teach or suggest a method that includes “automatically separating the digital data representing the optimum shape of the dental superstructure into first digital data and second digital data,” and “fabricating the first and second elements from one or more blanks, based on the first digital data and the second digital data with the aid of machining equipment,” as recited in Claim 1. Accordingly, Applicants submit that Claim 1 is patentable over *Willoughby* and *Perot et al.*, whether considered separately or in combination, and respectfully request withdrawal of the rejection of Claim 1 under 35 U.S.C. § 103(a).

Independent Claim 15 include features sufficiently similar to those of Claim 1 that Claim 15 is believed to be patentable over *Willoughby* and *Perot et al.*, whether considered separately or in combination, for at least the reasons discussed above. The other rejected claims in the present application depend from one or another of independent Claims 1 and 15 and are submitted to be patentable for at least the same reasons. Because each dependent claim also is

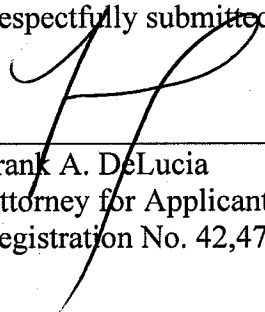
deemed to define an additional aspect of the invention, however, individual reconsideration of the patentability of each claim on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and an early passage to issue of the present application.

No petition to extend the time for responding to the Office Action is deemed necessary for this Amendment. If, however, such a petition is required to make this Amendment timely filed, then this paper should be considered such a petition and the Commissioner is authorized to charge the requisite petition fee to Deposit Account 06-1205.

Applicants' undersigned attorney may be reached in our New York Office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address listed below.

Respectfully submitted,



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